

# THE RELATION BETWEEN OBESITY AND THE RISK OF SUFFERING MORE SEVERE FORMS OF COVID-19



Anna Sánchez Martín

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## **OBJECTIVE**

- To understand the effect of obesity on patients suffering from Covid-19.
- To study the mechanisms of infection and how the disease develops in obesity patients.

#### INTRODUCTION

In November 2019, an outbreak of unknown pneumonia was notified in Wuhan, China. On the 12th of March 2020, a state of worldwide pandemic alarm was declared by the World Health Organization because of the virus called SARS-CoV-2 [1].

Obesity is another global pandemic affecting almost a third of today's world population. Global prevalence has doubled since 1980 [2].

#### **OBESITY**

Obesity is a disease characterized by excessive body fat accumulation that presents a health risk and causes other pathologies [3]. \_\_It is representen by the Corporal Mass Index (kg/m2) [3].

> Overweight: IMC= 25-29.9 Obesity: IMC= 30-30,9 Severe obesity: IMC> 40

## COVID-19 PANDEMIC

Coronaviruses are single-stranded RNA viruses that cause respiratory and intestinal disorders in hosts [3].

The human transmission of Covid-19 is produced by direct contact or by aerosols [3]. The majority of infected people are asymptomatic, but the most common symptoms are fever, cough and respiratory failure [1]. The incubation period is from 2 to 14 days [4].

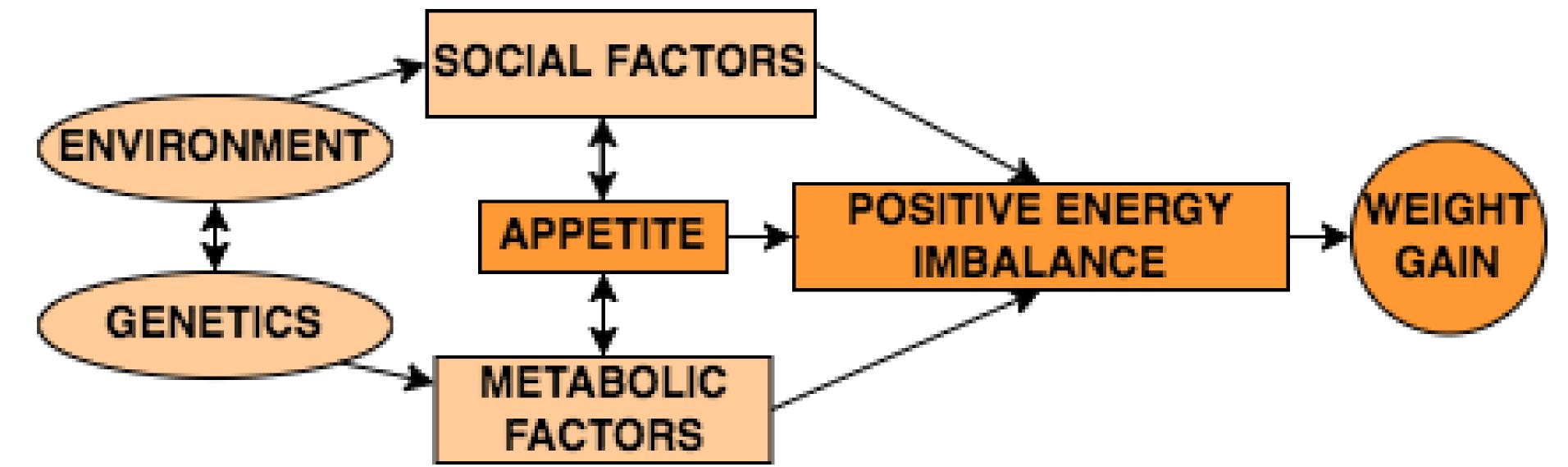


Figure 1. Obesity is the result of a combination of genetic susceptibility to overeating and exposure to an "obesogenic" food environment. Own source, information from [5].

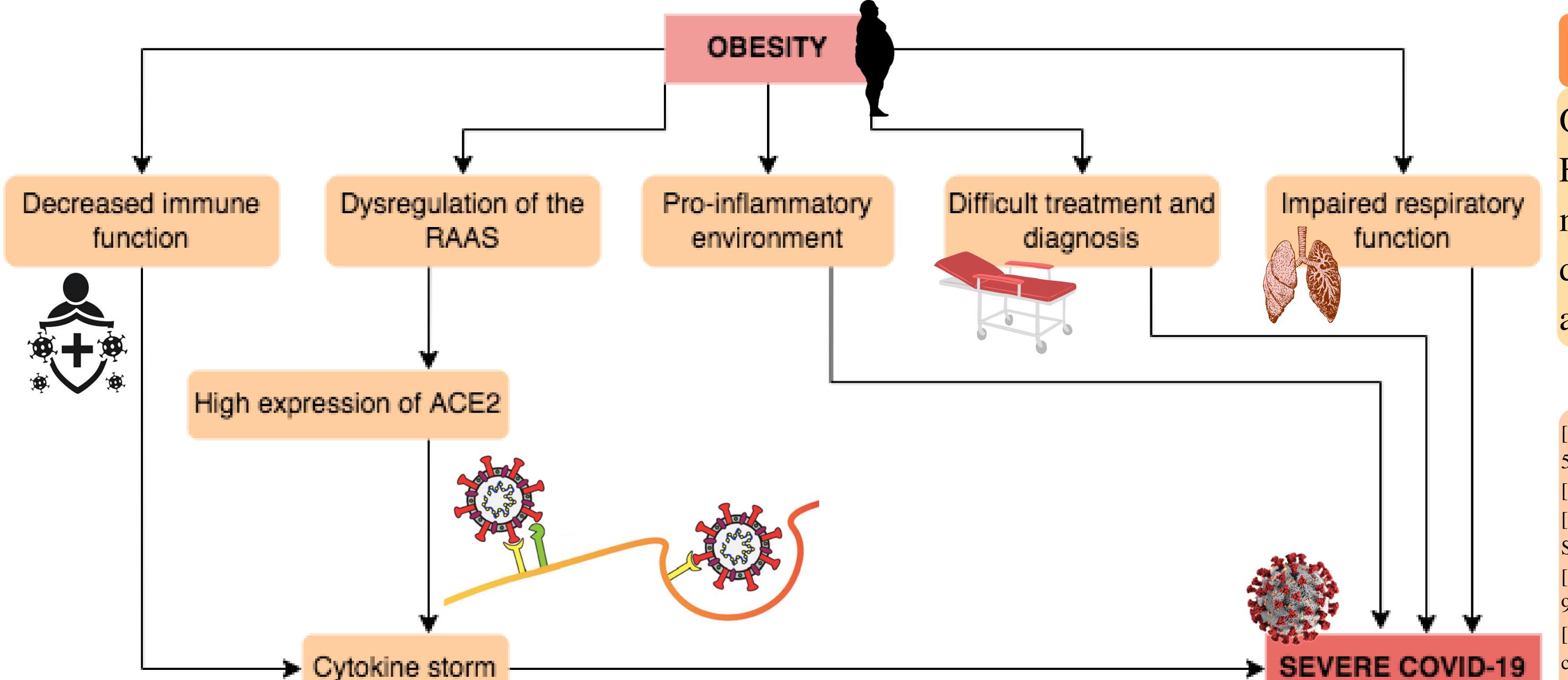


Figure 2. Mechanisms that connect obesity with more severe Covid-19. Own source, information from [6].

## **CONCLUSIONS**

Obesity is a risk factor in viral pandemics.

Further research is needed into cellular and molecular mechanisms that increase the risk of mortality and increase diagnosis. Research in the field of pharmaceutical therapy and better obesity management must also be organized.

#### REFERENCES

- [1] Ciotti et. al 2020. The COVID-19 pandemic. Critical Reviews in Clinical Laboratory Sciences. 57(6): 365–388.
- [2] Chooi et al. 2019. The epidemiology of obesity. Metabolism: Clinical and Experimental, 92: 6–10.
- [3] Alberca et al. 2021. Obesity as a risk factor for COVID-19: an overview. Critical Reviews in Food Science and Nutrition. 61(13): 2262–2276.
- [4] Leeuw et al. 2021. Obesity and its impact on COVID-19. Journal of Molecular Medicine. 99: 899-
- [5] Jackson et al. 2020. The obesity epidemic Nature via nurture: A narrative review of high-income countries. SAGE Open Medicine. 8.
- [6] Yu et al. 2021. Impact of obesity on COVID-19 patients. Journal of Diabetes and its Complications. 35(3).